

SOROKINA, O.P., inzhener; BRON, D.I., inzhener.

Gas cementation under pressure. Metalloved. i obr.met.no.1:47-50 J1  
'55. (MLRA 9:7)

1.NIIORGAVTOPROM.  
(Cementation (Metallurgy))

SOROKINA, O. P.; KOSTYUK, I. Ye.

Effect of Sandagou mineral water on chronic gastritis and  
gastroduodenal ulcer. Klin. med., Moskva 29 no.8:74-75  
Aug 1951. (CIML 20:11)

SOROKINA, O.P.; PETRUCHENKO, I.I.

Use of radon, carbon dioxide and oxygen baths in the complex of  
sanatorium treatment of hypertension. Vop. kur., fizioter. i  
lech. fiz. kul't. 26 no.4:323-326 Jl-Ag '61. (MIRA 15:1)

1. Iz Solnechnogorskogo sanatoriya (nachal'nik I.A.Kokorin)  
Ministerstva oborony SSSR.  
(HYPERTENSION) (RADON--THERAPEUTIC USE)  
(CARBON DIOXIDE--THERAPEUTIC USE)  
(OXYGEN THERAPY)

EL'ISEV'YER, Y. A., SOROKINA, R. A.

Tulskaya Sarychevka. Priroda 53 no.8, 79-80 '64.

(MIRA 17:9)

I. Institut geografii AN SSSR, Moskva.

SOROKINA, R. A.

USSR/Geophysics - Sea Level, Lowering, Jan/Feb 53

PA 243T63

"Problem of Aftereffects of Future Lowering of  
the Level of the Aral Sea," S. Yu. Geller and  
R. A. Sorokina, Geog Inst, Acad Sci USSR

"Iz Ak Nauk SSSR, Ser Geograf" No 1, pp 3-14

Extensive utilization of Ami-Dar'ya and Syr-  
Dar'ya waters for irrigation depends on con-  
struction of the Turkmen Canal, which in turn  
will decrease the flow into the Aral Sea, reduce  
its water capacity and area, and lower its level.

This will increase the salinity of the water and  
decrease the amount of ground water. Eventually it  
will change the climatic conditions of the area.

243T63

RAFIKOV, S.R.; SOROKINA, R.A.

Chemical transformations of polymers. Part 3: Thermal decomposi-  
tion of polyamides. Vysokom.sosed. 1 no.4:549-557 Ap '59.  
(MIRA 12:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.  
(Amides)

SOROKINA, R. A.

Cand Chem Sci - (diss) "Study of thermal and thermo-oxidative destruction of heterocyclic polyamides." Moscow, 1961. 11 pp; (Academy of Sciences USSR, Inst of Petrochemical Synthesis); 150 copies; price not given; (KL, 6-61 sup, 200)

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15.8500

S/190/61/003/001/003/020  
B119/B216

AUTHORS: Rafikov, S. R., Sorokina, R. A.

TITLE: Chemical changes in polymers. IV. Thermooxidative changes  
of polyamides

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 1, 1961, 21-29

TEXT: The authors point out the extremely small number of publications on the influence of oxygen on polyamides. The present work was undertaken with a view to elucidating the polymer changes produced by the action of oxygen at elevated temperatures. The following substances were used for the experiments: Anid (polyhexamethylene adipamide), granulated and in fibrous form; Caprone (polycaproamide) in the form of granulate, fibers and films (type ПК-4 (PK-4)); granulated and fibrous <sup>пласт</sup> (polyenanthamide) and Anid Г-669 (G-669), a copolymer made from caprolactam and the hexamethylene-diamine salts of adipic acid (salt АГ (AG)) and acelaic acid. Two series of experiments were performed: 1. The above-mentioned polyamides (fibers and films) were placed in a weak air

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S/190/61/003/001/003/020  
B119/B216

Chemical changes in polymers...

stream and maintained at elevated temperatures below the melting point of the polymer for 8 hr. 2. Dried air or nitrogen, respectively, was blown through the polymer melt at various temperatures. The first test series showed that the changes of the physicochemical polymer properties increase with increased testing temperature: the specific viscosity of the solutions drops, the Huggins constant increases. These changes are insignificant at temperatures below 140°C. At temperatures above 200°C, infusible, insoluble, but swellable products are formed (branched, or rather three-dimensionally cross-linked molecules with reduced mechanical properties). At yet higher temperatures, the substances decompose (splitting off of volatile compounds, blackening of the polyamide which loses its ability to swell in cresol, increase of oxygen content and decrease of carbon- and hydrogen content of the substance). The chemical structure (in contrast to the degree of molecular orientation) of the polyamide has practically no influence on the type and extent of change during thermooxidation in the solid state. The second test series showed that passing N<sub>2</sub> through the polyamide melt causes no change in the initial product, even at temperatures above 260°C. When air is passed

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Chemical changes in polymers...

through the melt, black, insoluble and infusible products which have an increased oxygen content and are nonswellable in cresol are formed locally at the points where polyamide comes into contact with O<sub>2</sub>. The authors assume the following reactions: primary addition of O<sub>2</sub> in the form of peroxide at corresponding points of the polyamide chain, which initiates a radical chain reaction. High temperature, however, lead to decomposition of the initial substance, of type and extent depending on its chemical structure (heterolysis, substitution). Hexamethylene-diamine containing polyamides split off pyrrol, among other substances. Mention is made of a work the first-mentioned author carried out in collaboration with B. A. Arbuzov. There are 1 figure, 2 tables, and 15 references: 9 Soviet-bloc and 5 non-Soviet-bloc.

ASSOCIATION: Institut elementoorganicheskikh soyedinenii AN SSSR  
(Institute of Elemental Organic Compounds of the AS USSR)

SUBMITTED: May 19, 1960

Card 3/3

SOLUNINA, I.A.; SOROKINA, R.A.; DEVYATIN, V.A.

Determination of 3-methyl-2-penten-4-yn-1-ol in the presence  
of 3-methyl-1-penten-4-yn-3-ol. Med.prom. 15 no.5:60-61 My '61.  
(MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy.vitaminyy institut.  
(PENTENYNOL).

S/190/62/004/011/003/014  
B119/B186

AUTHORS: Rafikov, S. R., Chelnokova, G. N., Sorokina, R. A.

TITLE: Chemical reactions of polymers. VIII. Degradation of polyhexamethylene adipamide at high temperatures

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 11, 1962,  
1639 - 1646

TEXT: Polyhexamethylene adipamide of molecular weight 23,500 was subjected to heat treatments at 350°C (in  $N_2$  current) and at 380 and 400°C (in an autoclave and  $N_2$  atmosphere) for several hours each, and the resulting decomposition products were investigated. At 350°C, a steric (three-dimensional) crosslinking of the polymer occurs with cleavage of  $NH_3^+$  and  $CO_2$ . At 380°C and over, a primary hydrolytic cleavage of the amide bonds sets in, followed by a separation of  $CO_2$ , cyclopentanone, amines, and  $NH_3^+$ . The presence of CO and low hydrocarbons in the decomposition product points to an additional homolytic cleavage of the  $-CO-NH-$  bonds. The

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Chemical reactions of polymers...

S/190/62/004/011/003/014  
B119/B186

hydrolysis of the polymer is initiated by the presence of minimum amounts of moisture in the dried initial product. It is maintained by the formation of H<sub>2</sub>O in the self-condensation of cyclopentanone and its condensation with amines and NH<sub>3</sub>. The end product of this condensation is an insoluble and nonfusible polymeric substance. There are 3 figures and 3 tables. The most important English-language references are: B. G. Achhammer, J. Appl. Chem., 1, 301, 1951; J. Research NBS, 46, 389, 1951; S. Straus, L. A. Wall. J. Research NBS, 60, 539, 1958; 63A, t269, 1959; B. Kamerbeek, G. H. Kroes, W. Grolle, Thermal degradation of some polyamides. Report delivered at the Conference on Heat-resisting Polymers, September 1960, London.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Elemental Organic Compounds AS USSR)

SUBMITTED: June 9, 1961

Card 2/2

RAFIKOV, S.R.; CHELNOKOVA, G.N.; RODE, V.V.; ZHURAVLEVA, I.V.; SOROKINA, R.A.

Chemical transformations of polymers. Part 15: Specific features  
of the thermal degradation of polyenanthamide. Vysokom. soed.  
6 no.4:652-654 Ap '64. (MIRA 17:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

KOZLOV, Pavel Vasil'yevich, prof.; BRAGINSKIY, Gerts Irmovich, dots.;  
Prinimali uchastiye: SHIFRINA, V.S.; KHARIT, Ya.A.;  
KOROSTYLEV, B.N.; SOROKINA, R.A.; ZHERDETSKAYA, N.N., red.

[Chemistry and technology of polymer films] Khimiia i tekhnologiya polimernykh plenok. Moskva, Iskusstvo, 1965. 623 p.  
(MIRA 18:7)

SOROKINA, R. M.

Feb 1947

USSR/Chemistry - Butadiene  
Chemistry - Bromobutadienes

"Splitting Off of Hydrogen Halides from the Dihalogen Butenes Formed During  
the Chlorination and Bromination of Butadiene: Synthesis of Alphachlor- and  
Alpha-bromobutadienes, Their Characteristics and Properties of Products,"  
A. L. Klebanskiy, R. M. Sorokina, Z. Ya. Khavin, 16 pp

"Zhur Obshch Khim" Vol XVII, No 2

PA 15T38

KLEBANSKIY, A.L.; SOROKINA, R.M.

Autoxidation of chloroprene by oxygen. Zhur.prikl.khim. 35  
no.12:2735-2740 D '62. (MIRA 16:5)  
(Chloroprene) (Oxidation)

20946

S/062/61/000/003/013/013  
B117/B20853700 1164  
2209  
1273

AUTHORS: also 1371 Kocheshkov, K. A., Panov, Ye. M., and Sorokina, R. S.

TITLE: Organolithium vinyl benzenes halogenated in their side chains, and their reactions

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, no. 3, 1961, 532

TEXT: In the present "Letter to the Editor", the authors report that they have been able to obtain organolithium vinyl benzenes halogenated in their side chain at low temperature. The synthesis was achieved by an exchange reaction  $CX_2 = CXC_6^4HBr + C_4^4H_9Li \rightarrow CX_2 - CXC_6^4H_2Li + C_4^4H_9Br$  (X being either F or Cl) in ether, and some of their reactions have been studied. This was exemplified by the following novel conversions of ArLi: 1) carbonization of ArLi gives ArCOOH (Ar denotes  $CClF = CFC_6^4H_4$ ), melting point  $165^\circ - 166^\circ C$ . Found: C 49.49; 49.59; H 2.26; 2.32; Cl 16.16; 16.39 %. Calculated: C 49.43; H 2.29; Cl 16.25 %. 2) Reaction of ArLi with  $HgBr_2$  yields  $ArHgBr$ , melting point  $221^\circ - 223^\circ C$ . Found: Hg 44.80 %; the sum of Cl and Br 24.96%.

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S/062/61/000/003/013/013

Organolithium vinyl benzenes halogenated...

B1:7/B208

25.18. Calculated: Hg 44.18 %; the sum of Cl and Br 25.40. 3) Reaction of ArLi with  $(C_6H_5)_3SnCl$  gives  $ArSn(C_2H_5)_3$ , boiling point 170°C (4 mm). Found: Sn 31.16; 31.15; Cl 9.76; 9.90 %. Calculated: Sn 31.28; Cl 9.36 %. 4) From the reaction with acetaldehyde a corresponding divinyl benzene results, which is halogenated in one of the vinyl groups. Low temperatures (about -70°C) were necessary for carrying out the afore-mentioned reactions, as well as reactions with halides of other elements or elemental-organic compounds. This new type of aryl lithium is capable of all the manifold reactions of organolithium compounds. The resultant monomers are polymerizable. It is pointed out that a rise of temperature or retardation of the reaction during the synthesis of the new ArLi type yield polycondensation products of the  $(-CX=CXC_6H_4-)$  type which are of special interest to the authors. [Abstracter's note: This is a full translation from the original].

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov)

SUBMITTED: January 19, 1961

Card 2/2

VASIL'YEVA, V.N.; KOCHESHKOV, K.A.; TALALAYEVA, T.V.; PANOV, Ye.M.;  
KAZENNIKOVA, G.V.; SOROKINA, R.S.; PETRIY, O.P.

Dipole moments and structure of some fluorine-substituted  
styrenes. Dokl. AN SSSR 143 no.4:844-846 Ap '62. (MIRA 15:3)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova. 2. Chlen-  
korrespondent AN SSSR (for Kocheshkov).  
(Styrene--Dipole moments) (Fluorine compounds)

S/020/62/145/005/014/020  
B106/B144

Fluorine-containing divinyl ...

p- $\alpha,\beta$ -difluoro- $\beta$ -chlorovinyl styrene (b. p. 66 - 69°C (2 mm),  $n_D^{20}$  1.5650,  $d_4^{20}$  1.2563) forms in 50% yield. Polymerization of this product (benzoyl peroxide as a starter, 2.5 hrs heating over a water bath) gave a solid, transparent product insoluble in organic solvents and swelling slightly in benzene and xylene. To produce bis- $\alpha,\beta$ -difluoro- $\beta$ -chlorovinyl benzene, p-lithium- $\alpha,\beta$ -difluoro- $\beta$ -chlorostyrene was mixed with trifluoro chloroethylene immediately after its production at -75°C. Data of the reaction product: b. p. 100 - 105°C (5 mm),  $n_D^{20}$  1.5430,  $d_4^{20}$  1.4240. This product polymerizes in the presence of benzoyl peroxide at 100°C at about the same rate as styrene with formation of a solid, transparent polymer which, unlike polystyrene, is not soluble on heating in aromatic hydrocarbons and swells in them only slightly. The polymer is stable on heating in air up to 210°C. The two compounds described exemplify the possible combinations of the groups  $-\text{CH}=\text{CH}_2$ ,  $-\text{CF}=\text{CFCF}_3$ ,  $-\text{C}(\text{CF}_3)=\text{CH}_2$ , etc. synthesized by the authors in fluorine-containing divinyl benzenes. There is 1 figure.

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Fluorine containing divinyl ...

S/020/62/145/005/014/020  
B106/B144

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-  
chemical Institute imeni L. Ya. Karpov)

SUBMITTED: May 11, 1962

Card 3/3

PANOV, Ye.M.; SOROKINA, R.S.; KOCHESHKOV, K.A.

Fluorine-containing divinylbenzenes. Zhur. ob. khim. 35  
no.8:1426-1429 Ag '65. (MIRA 18:8)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni  
L.Ya. Karpova, Moskva.

SOROKINA, R.S.; PANOV, Ye.M.; KOCHESHKOV, K.A.

Synthesis of styrenes with fluorine in the vinyl group and  
organometallic substituents in the ring. Zhur. ob. khim.  
35 no.9:1625-1628 S '65. (MIRA 18:10)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova.

SHAPET'KO, N.N.; SERGEYEV, N.M.; PANOV, Ye.M.; SOROKINA, R.S.

Extralong-range spin-spin interaction in the nuclear magnetic resonance spectrum of F<sup>19</sup> of para-fluoro- $\alpha,\beta$ -difluoroc- $\beta$ -chlorostyrene. Zhur. strukt. khim. 6 no. 4:641-643 Jl-Ag '65  
(MIRA 19:1)

I. Fiziko-khimicheskiy institut imeni D. Ya. Karpova, Moskva.  
Submitted November 5, 1964.

SERGEYEV, N.M.; SHAPET'KO, N.N.; PANOV, Ye.M.; SOROKINA, R.S.

Nuclear magnetic resonance spectra of F<sup>19</sup> in α,β-difluoro-β-chloro-styrenes. Teoret. i eksper. khim. 1 no. 5:695-697 S-0 '65.  
(MIRA 19:1)

1. Fiziko-khimicheskiy institut imeni Karpova, Moskva. Submitted February 26, 1965.

2. TITLE : Sour cherry, Diseases of Infected Plants.

3. ORIG. JOHN : Naukova Akademiya, No. 3 1959, No. 6613

Author : Katal'ina, O.P.; Sychkina, G.A.

PUB. : "

TITLE : Diagnosing, Monilia Infection in the Sour Cherry.

4. ORIG. PUB. : S. kh. Poyol's'ya, 1958, No. 6, 94-95

ABSTRACT : In the South East the sour cherry is infested by Monilia which of disease. To diagnose this disease it is recommended that one observe behind the sour cherry shoots during the spring period to search out any attachments to the leaves from the previous year and the formation of noxious growths.

CARD : 1/1

13

MIRYASOV, N.Z.; SOROKINA, S.A.

Perminvar effect in compound Ni - Zn - Cr ferrites. Fiz. tver tela  
5 no.9:2641-2646 S '63. (MIRA 16:10)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

SOROKINA, S.F.

Study of the carbon monoxide concentration in the air of living quarters and its effect on the body. Uch. zap. Mosk. nauch.-issl. inst. san. i gig. no.6:77-82 '60. (MIRA 14:11)

1. Kafedra obshchey gigiyeny Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.  
(CARBON MONOXIDE—PHYSIOLOGICAL EFFECT)  
(LENINGRAD—AIR—POLLUTION)

SOKOINA, S.F.

Effect on the body of small concentrations of carbon monoxide in  
the air of quarters supplied with gas. Trudy LSGMI no. 58:27-40 '60.  
(MIRA 14:11)

(LENINGRAD—AIR—POLLUTION)  
(CARBON MONOXIDE—PHYSIOLOGICAL EFFECT)  
(GAS AS FUEL—HYGIENIC ASPECTS)

FRENKEL', Semen Shmul'yevich; PASTUKHOV, V.M., nauchnyy red.; ROGACHEV,  
F.V., red.; SOROKINA, S.L., red.; DORODNOVA, L.A., tekhn. red.

[Laboratory exercises and problems on milling work] Laboratornye  
raboty zadachi po frezernomu delu. Moskva, Vses. uchebno-  
pedagog. izd-vo Proftekhizdat, 1961. 180 p. (MIRA 15:3)  
(Milling machines) (Technical education)

KAKHOVSKIY, Nikolay Ivanovich, kand.tekhn.nauk; GOTAL'SKIY, Yusef  
Nikolayevich, kand.tekhn.nauk; TRUSHCHENKO, Anton Antonovich,  
inzh.; ROMANOV, B.V., red.; SOROKINA, S.L., red.; KOZLOVSKAYA,  
M.D., tekhn.red.; PERSON, M.N., tekhn.red.

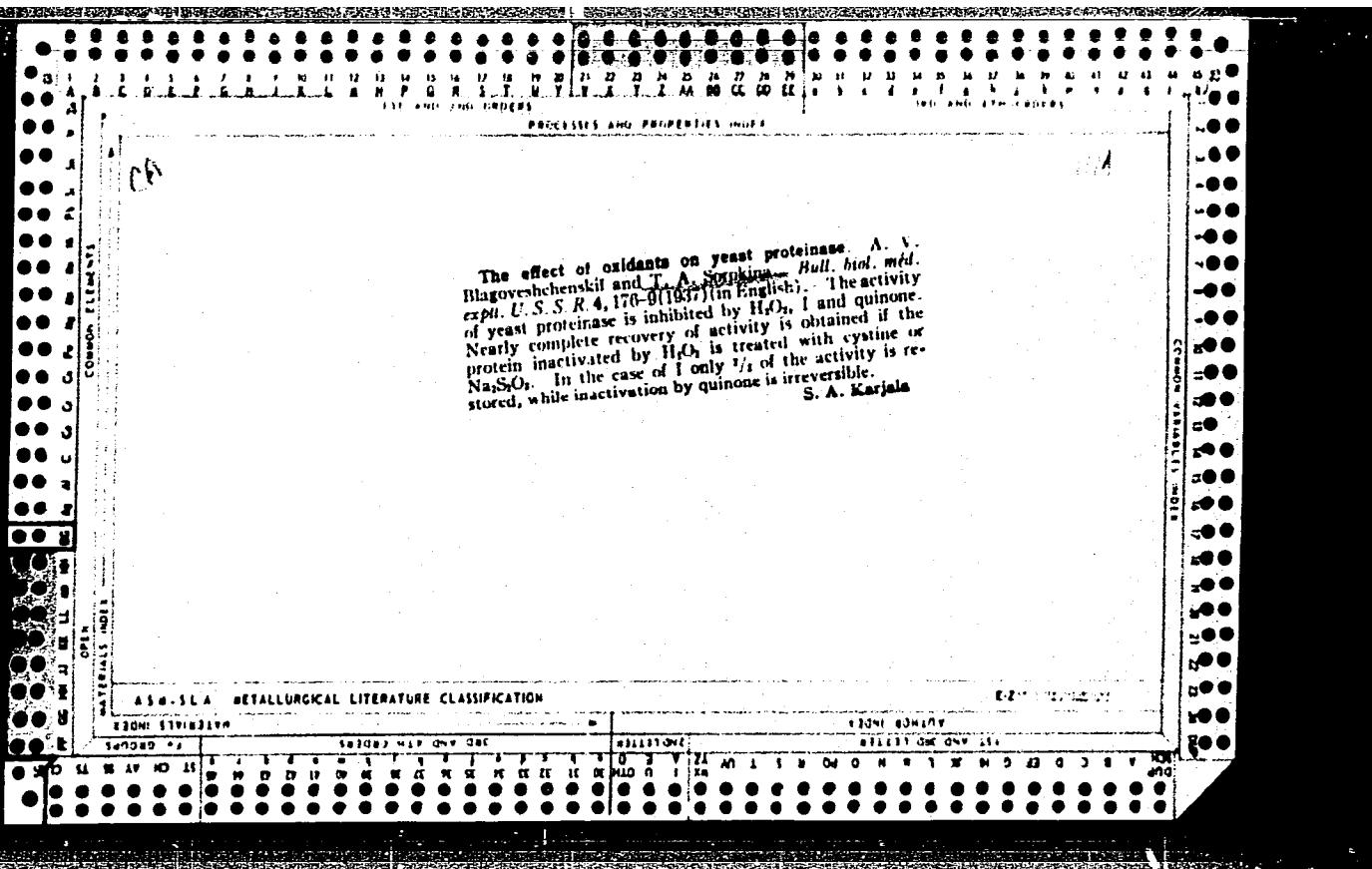
[Automatic and semiautomatic welding] Avtomaticheskaya i polu-  
avtomaticheskaya svarka. Moskva, Vses.uchebno-pedagog.izd-vo,  
1961. 422 p.  
(Electric welding)

MARDERER, R.G.; SHMYGLINA, A.I.; SOROKINA, S.S.

Some data on the epidemiological effectiveness of antipolio-myelitis vaccinations. Vop.virus. 7 no.6:740 N-D '62.

(MIRA 16:4)

1. Nauchno-issledovatel'skiy institut epidemiologii, mikrobiologii i gigiyeny, Kuybyshev.  
(POLIOMYELITIS—VACCINATION)



8/6/81

РЕМЕР (Е. Н.) & СОРОКИНА (Мне Т. А.). О проникновении бактерий внутрь клеток корня. [Concerning the penetration of bacteria into the cells of the root.]—Агробиология [Agrobiology], 1950, 6, pp. 135-138, 5 figs., 1950.

The authors describe some instances of bacteriotrophic nutrition of plants. Both ecto- and endotrophic types were detected. The two groups of bacteria most frequently encountered were *Ps[eudomonas (Bacterium)] radiobacter* and *Bacillus macerans*.

Examination of flax and wheat roots of all ages demonstrated the presence of these bacteria on the surface of the root hairs. When the numbers of bacteria are excessive they cause decay of the roots. Both species are able to penetrate easily into the root hairs, and *B. macerans* into the root tissues.

BEREZOVAYA, Ye.F.; BELOV, Ye.A.; SOROKINA, T.A.

Effect of organomineral mixtures on the microflora of soils and  
the root system of plants. Trudy Vses. inst. sel'khoz. mikrobiol.  
no. 14:192-208 '58. (MIRA 15:4)  
(Rhizosphere microbiology) (Fertilizers and manures)

BEREZOVА, Ye.; BORODULINA, Yu.; BUSHUYЕVA, P.; GEL'TSER, F.; GOLIKOV, V.;  
DOROSINSKIY, L.; KOZLOVA, N.; KRAKHIN, P.; KRUGLOV, N.; LAZAREV, N.;  
LAMPOVSHCHIKOV, P.; MAKAROVA, M.; MARKOVA, Z.; NESTEROVA, Ye.;  
PROKHOROV, M.; SOROKINA, T.; STARYGINA, L.; KHUDYAKOV, Ya.

Ivan Il'ich Samoilov; obituary. Mikrobiologiya 28 no.2:318-  
319 Mr-Ap '59. (MIRA 12:5)  
(SAMOILOV, IL'IA IL'ICH, 1900-1958)

SOROKINA, T. A., Cand Biol Sci (diss) -- "A study of the microflora of the seeds  
and root system of kok-sagyz and its influence on plant growth". Moscow, 1960.  
18 pp (Moscow State U im M. V. Lomonosov), 120 copies (KL, No 11, 1960, 131)

HEREZOVA, E.F., SOROKINA, T.A.

"Plant regulating role in rizosphere mikroflora formation."

Report submitted to the Intl. Congress for Microbiology  
Montreal, Canada 19-25 Aug 1962

BEREZOVAYA, Ye.F., prof., doktor biologicheskikh nauk; SOROKINA, T.A.,  
kand.biologicheskikh nauk; NOVOGRUDSKAYA, Ye.D.; SUDAKOVA, L.V.

Microbiological processes in manure-soil composts. Zemledelie 24  
no.4:63-66 Ap '62. (MIRA 15:4)

1. Moskovskoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo  
instituta sel'skokhozyaystvennoy mikrobiologii.  
(Compost)

BEREZOVА, Ye.F.; SOROKINA, T.A.; SUDAKOVA, I.V.; NOVOGRUDSKAYA, Ye.D.

Microbiological processes during the aging of manure-soil composts.  
Agrobiologiya no.4:581-584 Jl-Ag '69. (MIRA 16:9)

1. Moskovskoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo  
instituta sel'skokhozyaystvennoy mikrobiologii.  
(Compost-Microbiology)

BEREZOVА, Ye.F., prof.; SOROKINA, T.A., kанд. sel'skokhoz. nauk

Effect of fertilizers on soil microflora. Zemledelie 25 no.9:57-59  
S '63. (MIRA 16:9)

1. Moskovskoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo  
instituta sel'skokhozyaystvennoy mikrobiologii.

(Soil microorganisms)  
(Fertilizers and manures)

BEREZOVA, Ye.F.; SOROKINA, T.A.; KOCHUNOVA, T.A.

Fertility of composted areas. Agrobiologija no.1:37-40  
Ja-F '64 (MIRA 17:8)

1. Moskovskoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo instituta sel'skokhozyaystvennoy mikrobiologii.

ACC NR: AR6036990

(A,N)

SOURCE CODE: UR/0181/66/008/011/3379/3382

AUTHOR: Gribnikov, Z. S.; Mel'nikov, V. I.; Sorokina, T. S.

ORG: Institute of Semiconductors, AN UkrSSR, Kiev (Institut poluprovodnikov AN UkrSSR)

TITLE: Size effect in the electric conductivity of semiconductors upon heating of the electron gas

SOURCE: Fizika tverdogo tela, v. 8, no. 11, 1966, 3379-3382

TOPIC TAGS: semiconductor carrier, relaxation process, electron gas, semiconductor conductivity, electron scattering, inelastic scattering

ABSTRACT: The authors show that a size effect which is different from that due to diffuse electron scattering from the surface can occur in a semiconductor situated in a heating electric field, in the case when the electron energy relaxation length greatly exceeds the mean free path. This effect takes place in semiconductor plates with a thickness of the order of the energy relaxation length ( $2d \gg l$ , where  $2d$  is the thickness of the semiconductor and  $l$  is the mean free path). If this condition is satisfied, the size effect does not depend on the diffuseness of the surface reflection and is determined exclusively by the inelasticity of the reflection. The inelastic size effect can be due to scattering by surface oscillations of the semiconductor lattice or to scattering by lattice vibrations of a dielectric crystal which is in surface contact with the semiconductor. Without describing specifically the scattering mechanism, the authors deal with the limiting case when this scattering is

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ACC-NR: AP6036990

so intense that the electron distribution function is in equilibrium at the surface and the size effect is maximal. The results of earlier papers (FTT v. 7, 1997 and 2912, 1965) are used to calculate the components of the distribution function, the dependence of the maximum electron temperature on the field, and the volt-ampere characteristics. The results show that, unlike the usual size effect, the conductivity of the plate increases with decreasing thickness. The authors thank E. I. Rashba for interest in the work and useful remarks. Orig. art. has: 2 figures and 9 formulas.

SUB CODE: 20/ SUBM DATE: 07May66/ ORIG REF: 003/ OTH REF: 001

Card 2/2

Country : USSR

T

Category: Human and Animal Physiology. Nervous System.  
Higher Nervous Activity. Behavior.

Abs Jour: RZhBiol., No 19, 1958, 89255

oxidative processes. Decrease and asymmetry of blood pressure in the brachial arteries was observed as well as a relative elevation of pressure in the temporal artery. The plethysmogram was inert or of labile reactivity with spontaneous waves of the third order. The subjective feelings of the patients confirmed the notion about disturbances of the interaction of the signal systems and the presence of hypnoid states in schizophrenia. The basic element in the process of therapy - intensification of detoxication. Drugs, improving the cerebral blood supply and intensifying oxidative processes, are a useful adjuvant. -- K.S. Ratner

Card : 2/2

SOROKINA, T. T., Candidate Med Sci (diss) -- "The pathophysiology of catatonic stupor". Minsk, 1959. 8 pp (Minsk State Med Inst), 200 copies (KL, No 22, 1959, 122)

KUZNETSOV, Ye.V.; SOROKINA, T.V.; VALETDINOV, R.K.

Realkylation of bis- and tris ( $\beta$ -cyanoethyl) phosphines.  
Zhur. ob. khim. 33 no.8:2631-2634 Ag '63. (MIRA 16:11)

1. Kazanskiy khimiko-tehnologicheskiy institut imeni S.M. Kirova.

SOROKINA, V.A.

Experiment in creating steppe coenoses at the Leninskiye Gory.  
Bot. zhur. 45 no.4:597-604 Ap '60. (MIRA 14:5)

1. Botanicheskiy sad Moskovskogo gosudarstvennogo universiteta  
im. M.V. Lomonossova.  
(Leninskiye Gory--Steppe flora)

37602. Nekotoryye dannyye o morfologii i dinamike patologicheskikh struktur v eritrotsitakh pri skipidarnoy anemii. Trudy tomskogo med. in-ta im. molotova. T. XV. 1949, s. 83-88.

SO: Letopis' Zhurnal'nykh Statey, Vol. 37, 1949

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001652520002-8

SOROKINA,V.A.; PUSTOVY, I.V.

"Chekhov and medicine." I.M.Geizer. Reviewed by V.A.Sorokina,  
I.V.Pustovo. Sov. zdrev. 13 no.4:55-56 Jl-Ag '54. (MLRA 7:9)  
(CHEKHOV, ANTON PAVLOVICH, 1860-1904)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001652520002-8"

SOROKINA, V.A.; PUSTOVA, I.V.

Review of G.F.Konstantinov and I.IA.Bychkov's book "The feldsher-midwife station in the village." V.A.Sorokina, I.V.Pustova. Med. sestra no.3:27-29 Mr '55. (MLRA 8:5)

(OBSTETRICS)  
(KONSTANTINOV, G.F.)  
(BYCHKOV, I.IA.)

SOROKINA, V A.

Name : SOROKINA, V. A.  
Dissertation : Development of progressive ideas on  
material and child physical welfare at  
Pirogov Congresses  
Degree : Cand Med Sci  
Defended At : Min Health USSR Central Inst of  
Advanced Training for Physicians  
Publication Date, Place : 1956, Moscow  
Source : Knizhnaya Letopis' No 6, 1957

USSR / Human and Animal Physiology. Blood.

T

Abs Jour: Ref Zhur-Biol., No 9, 1958, 41232.

**Abstract:** I. After the injection of I in controls, Hb decreased on the 8-10 day of the experiment by 17.1-23.9%, erythrocytes (E) by 26.9-38.3%. Return to normal values was observed on the 21-22 day. The reticulocyte count (R) increased and reached a maximum on the 9-10 day (69-87%). The anemia had a more severe course with injection of I during convulsive seizures caused by subcutaneous injection of a 5% sol. of novacaine (100-150 mg/kg). The value of Hb decreased by 26.8-43.8%, E by 33.3-46.5% (on the 10-12 day of the experiment). Restoration was noted only on the 31-32 day. The R count reached the highest level on the 11-12th

Card 2/3

SOROKINA, V.A.

Role of the Pirogov congresses in spreading progressive ideas on  
maternal and child welfare. Sov.zdrav. 18 no.4:38-44 '59. (MIRA 12:4)

1. Iz kafedry organizatsii zdravookhraneniya (zav. - prof. N.A. Vinogradov) TSentral'nogo instituta usovershenstvovaniya vrachey (dir. - prof. V.P. Lebedeva).

(MATERNAL WELFARE, history,  
contribution of Pirogov (Rus))  
(CHILD WELFARE, history, same)

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001652520002-8

SOROKINA, V.A., dotsent

Out-of-town session of the Medical Council of the Ministry of Public  
Health of the Uzbek S.S.R. Med. zhur. Uzb. no.10:80 0 '60.  
(MIRA 13:12)

(UZBEKISTAN—MEDICAL RESEARCH)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001652520002-8"

SOROKINA, V.A., dotsent

Callus formation in fractures of the long bones treated by means  
of intramedullary nailing. Med. zhur. Uzb. no.1:34-36 Ja '61.  
(MIRA 14:6)

1. Iz-kafedry gospital'noy khirurgii (zavl - prof. S.A.Masumov)  
Tashkentskogo gosudarstvennogo meditsinskogo instituta.  
(INTERNAL FIXATION OF FRACTURES)  
(FEMUR—FRACTURE)

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001652520002-8

SOROKINA, V.A., dotsent

Extended Plenum of the Medical Council of the Ministry of Public  
Health of the Uzbek S.S.R. Med. zhur. Uzb. no. 2:70-71 F '61.  
(MIRA 14:2)

(UZBEKISTAN—MEDICINE)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001652520002-8"

SOROKINA, V.A., dotsent

Principal results of medical research in the Republic during 1959.  
Med. zhur. Uzb. no.9:69-72 S '61. (MIRA 15:2)  
(UZBEKISTAN MEDICAL RESEARCH)

SOROKINA, V. A.

Report of the 4th session of the Tashkent Society of Traumatologists  
and Orthopedists. Ortop., travm. i protez. 22 no.8:92-93 Ag '61.  
(MIRA 14:12)

(TASHKENT—ORTHOPEDIC SOCIETIES)

ADZHI-MOLLAEV, A.A., prof.; SOROKINA, V.A., dotsent; TEREKHOV, O.G.,  
kand.med.nauk

Clinical, roentgenological and pathohistological juxtaposition  
in primary neoplasms of the bones of extremities. Med.zhur.  
(MIRA 16:4)  
Uzb. no.8:13-20 Ag '62.

1. Iz Uzbeckogo nauchno-issledovatel'skogo instituta travmatologii  
i ortopedii (dir. - B.A.Akhundzhanov) i kafedry travmatologii i  
ortopedii (zav. - prof. B.I.Berliner) Tashkentskogo gosudarstven-  
nogo meditsinskogo instituta.  
(EXTREMITIES (ANATOMY)--TUMORS)

SOROKINA, V.A., kand. med. nauk; MERKOV, A.M., prof., red.

[Practical work in the methodology of the analysis of mortality in children] Praktikum po metodike analiza detskoj smertnosti. Moskva, TSentr. inst. usovershenstvovaniia vrachei, 1963. 56 p. (MIRA 18:2)

TOKOPTSEV, I.V.; SOHOLOV, N.V. [deceased]; TETERINA, V.I.; SOROKINA, V.A.

Reaction of the hemopoietic system of guinea pigs to chronic  
action of ionizing radiation applied in small doses. Irkbt. Pat.  
27 no.8:10-17 '65. (NIRA 18:10)

1. Kafedra patologicheskoy anatomii, patologicheskoy fiziologii i  
biologii Tomskogo meditsinskogo instituta.

MURAVEYSKAYA, G.S.; CHERNYAYEV, I.I.; SOROKINA, V.F.

Nitration reaction of complex iridium chlorides. Zhur.neorg.khim. 8  
no.3:578-582 Mr '63. (MIRA 16:4)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova AN  
SSSR. (Iridium compounds) (Nitration)

MURAVEYSKAYA, G.S.; CHERNYAYEV, I.I.; SOROKINA, V.F.

Potassium trinitritrichloroiridite  $K_3Ir(NO_2)_3Cl_3$ . Zhur.neorg.khim. 8  
no.3:583-589 Mr '63. (MIRA 16:4)

1. Institut obshchey i neorganicheskoy khimii N.S.Kurnakova AN SSSR.  
(Iridium compounds)

MURAVEYSKAYA, G.S.; CHERNYAYEV, I.I.; SOROKINA, V.F.

Polymerism of nitrochloroacquohydroxo compounds of trivalent  
iridium. Zhur.neorg.khim. 8 no.4:847-852 Ap '63. (MIRA 16:3)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova  
AN SSSR.  
(Iridium compounds)

GREBEN', L.K., akademik; BAYDUCANOVA, Ye.P., nauchnyy sotrudnik;  
SOROKINA, V.I., nauchnyy sotrudnik

Productivity of White Ukrainian Steppe swine depending on age and  
the degree of relationship between boars and sows. Trudy "Ask.-Nov."  
8:30-50 '60. (MIRA 14:4)

1. Akademiya nauk USSR, Vsesoyuznaya akademiya sel'-skokhozyaystvennykh  
nauk im. V.I. Lenina i Ukrainskaya Akademiya sel'skokhozyaystvennykh  
nauk (for Greben').

(Swine breeding)

GREBEN', L.K., akademik; BAYDUGANOVA, Ye.P., nauchnyy sotr.; SAVCHENKO, P.Ye., kand. biol. nauk; GREBEN', Ye.K., kand. sel'khoz. nauk; KRYLOVA, L.F., nauchn. sotr.; SIDOROVA, L.M., nauchn. sotr.; SOROKINA, V.I., nauchn. sotr.; BAGMET, M.I.; LAZORENKO, Ye.L.; KHOKHLYUK, A.G.; PASHKEVICH, M.K.; BRYZHNIK, K.A.; LUZHKOVA, M.A., kand. sel'khoz. nauk; BALASHOV, N.T., kand. sel'khoz. nauk; ZHELIKHOVSKIY, V.I., redaktor; POTOTSKAYA, L.A., tekhn. red.

[Ukrainian White Steppe swine] Ukrainskaia stepnaia belaia poroda svinei. Pod obshchei red. L.K.Grebenia. Kiev, Gos-sel'khozizdat USSR, 1962. 252 p. (MIRA 16:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut zhivotnovodstva stepnykh rayonov im. M.F.Ivanova "Askaniya-Nova."
  2. AN Ukr.SSR i Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk im. V.I.Lenina (for L.K.Grebenn'). 3. Ukrainskiy nauchno-issledovatel'skiy institut zhivotnovodstva stepnykh rayonov im. M.F.Ivanova "Askaniya-Nova" (for Bayduganova).
  4. Melitopol'skaya gosudarstvennaya plemennaya stantsiya (for Bagmet, Lazorenko, Khokhlyuk). 5. Spetsialist sovkhzoza "Komsomolets", Stavropol'skiy kray (for Bryzhnik).
- (Ukraine--Swine breeding)

MIKHAYLOV, N.V.; BUKOV, G.A.; GORBACHEVA, V.O.; MAKAROVA, T.P.; v rabote  
prinimali uchastiye: LARIONOV, P.E.; SOROKINA, V.I.; ZOTOV, Ya.E.

Studying the formation mechanism of synthetic fibers from molten  
materials. Khim.volok. no.1:33-36 '59. (MIRA 12:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo  
volokna.  
(Textile fibers, Synthetic)

SOKINA, V. L.

28(1) 1984 BOOK REVIEW

**Book Review**

**Philosophical methodology: non-analytical theory and thought.**  
By R. Rorty. 1983

Rorty's paper at the Second All-India Conference of Analytical Philosophy of Mind and Language, 1971, was the first to introduce the concept of "non-analytical philosophy". The present book is a collection of his papers on this topic. The book consists of 12 chapters, each containing a discussion of some aspect of non-analytical philosophy. The book is intended for analytical students in the field of philosophy.

SOROKINA, V.I.

SOROKINA, V. I.

"Groups and Linear Sets with Disjunct Elements." Leningrad State Pedagogic Inst imeni A. I. Gertsen, Chair of Mathematical Analysis, Leningrad, 1955. (Dissertation for the Degree of Candidate in Physical and Mathematical Sciences)

SO: M-955, 16 Feb 56

SOROKINA, V. I.

44-1-158

Translation from: Referativnyy Zhurnal, Matematika, 1957, Nr 1, p. 27 (USSR)

AUTHOR: Sorokina, V. I.

TITLE: Concept of a Group and Linear Set With Disjunctive Elements  
(Ponyatiye gruppy i lineynogo s'mozhestva s dis'yunktnymi elementami)

PERIODICAL: Uch. zap. Leningr. gos. ped. in-ta, 1955, 103, pp. 179-207,

ABSTRACT: Commutative groups and linear sets are studied in which for certain pairs of elements the relation of disjunctivity  $x \sim y$ , is determined which fulfills the following axioms:

I. If  $x \sim x$ , then  $x = \theta$  (where  $\theta$  is zero groups).

II. If  $x \sim z$ , then  $-x \sim z$ .

III. If  $x \sim z$  and  $y \sim z$ , then  $(x + y) \sim z$ .

IV. If  $x \sim y$  and  $(x + y) \sim z$ , then  $x \sim z$ .

Element  $x_1$  is called a fragment of element  $x$  if  $x_1 \sim x$  ( $x - x_1$ ).

Element  $x$  is called wider than element  $y$ , if, for any  $z$  from  $x \sim z$  it follows that  $y \sim z$ . Elements  $x$  and  $y$  are called elements of

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44-1-158

## Concept of a Group and Linear Set With Disjunctive Elements (Con't)

the same width if, for any  $z$ , from  $z \in x$  it follows that  $z \in y$  and vice versa. The fragment  $x^*$  of the  $x$  element is called the widest of a certain set of fragments of element  $x$ , if any fragment from this set is a fragment of element  $x^*$  and if, because element  $y$  is disjunctive to all fragments of element  $x$  of this set, it follows that  $y \in x^*$ . To the four above-mentioned axioms, the following are added:

- V. For any nondisjunctive elements, there exist fragments different from zero of identical width.
- VI. For any set of fragments of each element  $x$ , there exists the widest fragment of  $x^*$ .

In the case of linear sets, fulfillment of axiom VII is necessary. If  $xy$ , and  $\lambda$  is a real number, then  $(\lambda x) = y$ . Any complete general group  $K$  is a group with disjunctive elements, and any  $K$ -space is a linear set with disjunctive elements (relationship of disjunctivity to be taken in the usual sense). On the other hand, the set of all stepped elements

Card 2/3

SOROKINA, V. I;MAKAROV, M. P.

Treatment of pulmonary suppurative processes with penicillin  
administered by tracheal puncture. Sovet. med. 16 no.5:36-37  
May 1952. (CIML 22:2)

1. Of the Hospital Therapeutic Clinic (Head -- Prof. A. I.  
Germanov) and of the Hospital Surgical Clinic (Head -- Prof. A.  
M. Aminev), Kuybyshev Medical Institute.

SOROKINA, V. I., Cand Med Sci -- (diss) "Changes in the blood system of patients with chronic [intoxication by TNT]." Kuybyshev, 1957. 14 pp (Kuybyshev Med Inst), 200~~x~~ copies (KL, 2-58, 117)

-79-

SOROKINA, V.I.

Functional state of the hemopoietic system in chronic occupational  
poisoning [with summary in English]. Probl.gemat. i perel.krovi  
4 no.2:25-29 F '59. (MIRA 12:2)

(TOLUENE, rel. pcs.

trinitrotoluene, occup. pois., eff. on hemopoietic  
system (Rus))

(HEMOPOIETIC SYSTEM, pathol.

in occup. trinitrotoluene pois. (Rus))

GREBEN', L.K., akademik; SOROKINA, V.I.

Use of intrabreed heterosis in the line breeding of the  
Ukrainian Steppe White swine breed. Agrobiologija no.4:598-  
603 Jl-Ag '65. (MIRA 18:11)

1. Ukrainskiy nauchno-issledovatel'skiy institut zhivotnovodstva  
stepnykh rayonov imeni akademika M.F.Ivanova, Askaniya-Nova.
2. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni  
V.I.Lenina. (for Greben').

KORENMAN, I.M.; TUMANOV, A.A.; SOROKINA, V.M.

Composition and solubility of cerium oxinates. Izv.vys.ucheb.zav.:  
khim.i khim.tekh. 3 no.4:580 '60. (MIRA 13:9)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete im. N.I.Lobachevskogo, kafedra analiticheskoy khimii.

(Cerium compounds) (Quinolinol)

27170  
S/057/61/031/009/010/019  
B104/B102

93130 (1140, 1163, 1538)

AUTHORS:

Zinchenko, N. S., and Sorokina, V. M.

TITLE:

Potential distribution in a tubular electron beam of finite length

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 9, 1961, 1073-1076

TEXT: The authors derived formulas for calculating the longitudinal and transverse distribution of the potential in a hollow electron beam of finite length. It was assumed that the current density in the electron beam was homogeneous and that the electrons had equal axial velocity components. The tubular beam with constant cross section was assumed to be surrounded by a cylindrical tube (Fig. 1). The potential of such an electron-optical system is a function of r and z; an exact solution of Poisson's equation, however, cannot be obtained. If the potential drop in the beam is linearized, one obtains the following approximate equation:

$$\frac{1}{r} \frac{d}{dr} \left( r \frac{\partial V_2}{\partial r} \right) + \frac{\partial^2 V_2}{\partial z^2} = \frac{j}{\epsilon_0 \sqrt{2\eta V_0}} \left( 1 + \frac{1}{2} \frac{V_2}{V_0} \right),$$

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potential distribution in a...

where  $V_0$  is the accelerating potential relative to the cathode;  $V_0 - V$  is the potential drop in the beam;  $j$  is the current density in the beam. The following boundary conditions are given:

$$\begin{aligned} V_1 \Big|_{\substack{r=0 \\ r=L}} &= V_2 \Big|_{\substack{r=0 \\ r=L}} = V_3 \Big|_{\substack{r=0 \\ r=L}} = 0; & V_3 \Big|_{r=c} &= 0, \\ V_1 \Big|_{r=a} &= V_2 \Big|_{r=a}; & \frac{\partial V_1}{\partial r} \Big|_{r=a} &= \frac{\partial V_2}{\partial r} \Big|_{r=a}, \\ V_2 \Big|_{r=b} &= V_3 \Big|_{r=b}; & \frac{\partial V_2}{\partial r} \Big|_{r=b} &= \frac{\partial V_3}{\partial r} \Big|_{r=b}. \end{aligned} \quad (1).$$

By separation of the variables, the following solutions are obtained:  
(2),

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B104/B102

Potential distribution in a...

$$+ \sum_{n=p+1}^{\infty} [C'_1 J_0(\xi_n r) + C'_3 N_0(\xi_n r) - t] \sin \lambda_n z, \quad (3),$$

$$V_3 = \sum_{n=1}^p [C_2 I_0(\lambda_n r) + C_3 K_0(\lambda_n r)] \sin \lambda_n z + \\ + \sum_{n=p+1}^{\infty} [C'_2 I_0(\lambda_n r) + C'_3 K_0(\lambda_n r)] \sin \lambda_n z, \quad (4).$$

Here,  $J_0$  and  $N_0$  are ordinary,  $I_0$  and  $K_0$  modified Bessel functions;

$$\xi_n = n\pi/L; \quad k^2 = j/2\varepsilon_0 \sqrt{2\rho V_0} V_0; \quad \xi_n = \sqrt{\lambda_n^2 - k^2}; \quad t = b_n / (\lambda_n^2 - k^2);$$

$\rho = j/n\pi\varepsilon_0 \sqrt{2\rho V_0}$ . By the limiting process  $a \rightarrow 0$ , these expressions reduce those for a full electron beam; the respective expressions for a semicircular electron beam in an unbounded space can be obtained by the limiting process  $c \rightarrow \infty$ . Finally, an example is calculated. There are

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...al distribution in a...

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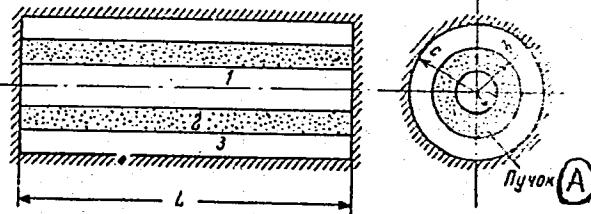
Figures and 4 references; 1 Soviet and 3 non-Soviet. The three references to English-language publications read as follows: A. V. Haaff, Proc. IRE, 27, 3, 1939; A. L. Samuel, Proc. IRE, 37, 11, 1252, 1949; J. Appl. Phys., 20, 3, 242, 1949.

INSTITUTION: Institut radiofiziki i elektroniki AN SSSR (Institute of Radiophysics and Electronics AS USSR). Khar'kovskiy gosudarstvennyy universitet im. Gor'kogo Kafedra elektroniki (Khar'kov State University imeni Gor'kij) Department of Electronics)

DATE: December 19, 1960

Refers to Fig. 1: (A) Beam

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80288

S/170/60/003/04/17/027  
B007/B102

18.6200 18.1250

18.0100

AUTHORS: Al'tman, A. B., Sorokina, V. N.

TITLE: Investigation of Sintering of Cu-Ni Sintered Alloy

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 4, pp. 103-107

TEXT: A Cu-Ni alloy containing 30% Cu and 70% Ni was investigated. L. A. Zamarayeva, Engineer, and T. V. Peregudova, Engineer, participated in the experiments. In table 1 the chemical composition and grain size distribution of the metal powders investigated are listed. Figs. 1 and 2 show the results of the investigations: Fig. 1 illustrates the microstructure of the Cu-Ni sintered alloy after 4 hours' sintering at various temperatures. Fig. 2 shows the influence of the sintering temperature upon the physical properties of the samples in form of a graph. In sintering at 500-700°C a considerable density decrease was found and the porosity rose from 6 to 17%. Volume contraction was not observed. The decrease in electric resistivity after heating at 100-400°C is explained by a reduction of oxides on the copper and nickel particles and by an intensification of the contact between the metal particles. The rapid increase of the electric resistance in the range of from 500-700°C is mainly due to an

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Investigation of Sintering of Cu-Ni Sintered Alloy      S/170/60/003/04/17/027  
B007/B102

intense dissolution of the components of the alloy. Reference is made to the fact that the Curie temperature may be used as a criterion for the diffusion of copper and nickel during the production of Cu-Ni alloys from powders. Fig. 2 shows that a change of the Curie point of copper-nickel alloys occurs in sintering in the range of from 700-1000°C. This fact is indicative of the development of diffusion processes and of a homogenization of the solid solutions which have formed in the course of copper and nickel dissolution. The decrease in Vickers hardness at 500-700°C is explained by the influence of porosity increase in the samples and by the influence of recrystallization. The increase in microhardness of the samples in the range 700-1000°C is explained by the evolution of the homogenization of the Cu-Ni solid solution. Basing on the experiments, the beginning of the dissolution of copper and nickel can be coordinated to a temperature of about 500°C and the end of it to a temperature of about 700°C. The homogenization of the parts of the Cu-Ni solid solution with intermediate composition mainly performs at 700-1000°C. The formation of a homogeneous solid solution is practically completed at 1000°. The case described concerns sintering of powders of heterogeneous and intersoluble particles without formation of a liquid phase. On this occasion 3 stages of sintering occur according to

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Investigation of Sintering of Cu-Ni Sintered Alloy

S/170/60/003/04/17/027  
B007/B102

the temperature of heating (Refs. 8, 9): 1) from 100 to 500°C, 2) from 500 to 700°C, and 3) from 700 to 1000°C. There are 2 figures, 1 table, and 9 references, 6 of which are Soviet.

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L 61134-65 EPF(c)/EPF(n)-2/EPA(w)-2/EPA(s)-2/EPF(z)/EWT(1)/EWT(m)/EPF(i)/EPF(b)/T/  
ACCESSION NR: AR5004562 EPF(e)/EPF(t) S/0196/64/000/011/B006/B006  
IJP(c) WH/WW/JD/HW/JG 621.318.2 47  
B

SOURCE: Ref. zh. Elektrotehnika i energetika, Abs. 11B45

AUTHOR: Altman, A. B.; Gladyshev, P. A.; Mileshin, Ye. V.; Sorokina, V. N.  
TITLE: Structure and characteristics of metal-ceramic permanent magnets made from  
iron-nickel-aluminum alloy 47, 55 47, 55 55, 47  
CITED SOURCE: Tr. Kuybyshevsk. aviat. in-t., vyp. 16, 1963, 213-227

TOPIC TAGS: permanent magnet, magnico magnet, metal ceramic magnet, cast alloy  
magnet 14

TRANSLATION: The structure and characteristics of cermet and cast magnets were  
compared. A magnico alloy with 1% Ti was investigated by an electron microscope.  
Specimens of both types of the magnet were hardened from 1300C in the air in  
a 1500-oe magnetic field and then tempered at 400--900C for four hours. The  
electron-microscope-revealed structures of both magnet types were almost identical.  
The cermet structure differs from the cast structure only by the presence of Ti  
carbides and Al and Zr oxides which was due to the practical conditions of  
specimen preparation. The phase composition of the cermet magnico alloys with Ti  
15, 44

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L 61131-65

ACCESSION NR: AR5004562

(0--2.5%) and Zr (0--2%) was investigated. With Ti content increasing, the period of the  $\beta$ -phase lattice does not change, while the  $\beta_2$ -lattice period increases. With Zr content increasing, the period of the  $\beta_2$ -phase lattice does not change, while the  $\beta$ -lattice period increases. The effect of chemical composition of the magnet material upon  $B_r$  and  $H_c$  is essentially the same for both types (for Ni, Al, Co, Cu). With a nitrogen contamination, the magnetic characteristics abruptly deteriorate. The characteristics of the specimens of both types treated according to the optimal regimes are identical. Greater porosity results in lower quality of the cermet specimen. The ultimate strength  $\sigma_u$  and  $\sigma_{ue}$  (compression) of cermet specimens is 3--6 times as high as the cast specimens.

SUB CODE: EM, NM

ENCL: 00

KC  
Card 2/2

ACCESSION NR: AR4018338

8/0137/64/000/001/I090/I090

SOURCE: RZh. Metallurgiya, Abs. 11571

AUTHOR: Al'tman, A. B.; Gladyshev, P. A.; Mileshin, Ye. V.; Sorokina, V. N.

TITLE: The structure and properties of metal ceramic permanent magnets of alloys based on the iron-nickel-aluminum system.

CITED SOURCE: Tr. Kuybyshevsk. aviat. in-t, vyop. 16, 1963, 213-227

TOPIC TAGS: sintered alloy, sintered alloy magnet, magnetic alloy, magnetic alloy property, sintered magnetic alloy, magnico alloy

TRANSLATION: The structure and properties of metalceramic and cast magnets were compared. The electron microscopic study was conducted on magnico alloy with 1% titanium. The samples of metalceramic and cast metal magnets were heat-treated at 1,300 degrees in air in a magnetic field (1,500 oersteds), and then drawn in a temperature of 400-900 degrees (4 hours). There was noted an almost complete coincidence of electron microscopic structure of metal ceramic and cast metal. The structure of the metal ceramic alloy differed from the structure of the cast alloy only through the presence of titanium carbides and aluminum oxides and silicon.

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ACCESSION NR: A4018338

oxides, which was linked to the practical conditions of preparing the samples. The phase composition of the metal ceramic alloys of magnico and Ti (0-2.5%) and Zr (0-2%) was studied. The period of the lattice of phase beta does not change with the increase in the titanium content; the period of the lattice of phase beta<sub>2</sub> does change. As the zirconium content increases, the period of the lattice of phase beta<sub>2</sub> does not change, and the period of the lattice of phase beta increases. The relationship of B<sub>r</sub> and H<sub>c</sub> with the chemical composition of the metalceramic alloy is basically the same as with the cast alloy (for Ni, Al, Co, and Cu). With adulteration with nitrogen, there is observed a sharp deterioration of the magnetic properties. The properties of the metal ceramic and cast alloy samples processed according to optimum schedules are the same. An increase in porosity lowers the stability of the metal ceramic.  $\sigma_b$  and  $\sigma_{bc}$  of the metal ceramic samples is 3-6 times greater than that of the cast samples.

SUB CODE: MN

ENCL: 00

Card 2/2

SOROKINA, V.N.

Training highly qualified pharmaceutical personnel.  
Apt. delo 14 no.5:12-15 S-O '65. (MIRA 18:11)

1. Ministerstvo zdravookhraneniya SSSR.

L 37747-66 EWP(e)/EWT(m)/EWP(t)/ETI IJP(c) JD/WH  
 ACC NR: AP6017102 (N) SOURCE CODE: UR/0226/66/000/001/0041/0045

AUTHORS: Al'tman, A. B.; Valakina, V. M.; Karpova, V. P.; Memelov, V. L.;  
 Sorokina, V. N.

49  
6

ORG: All-Union Scientific Research Institute of Electromechanics (Vsesoyuznyy  
 nauchno-issledovatel'skiy institut elektromekhaniki)

TITLE: Dependence between total and surface porosity of sintered materials Cu--Sn--C  
 $\frac{27}{27} \frac{27}{27}$

SOURCE: Poroshkovaya metallurgiya, no. 1, 1966, 41-45

TOPIC TAGS: copper, tin, carbon, graphite, powder metal compaction, powder metal  
 sintering, POROSITY, SINTERED ALLOY

ABSTRACT: The effect of sintering temperature and pressure on the ratio of total  
 (P<sub>T</sub>) to surface porosity (P<sub>o</sub>) of bronzographite (90% Cu, 9% Sn, 1% C) was investi-  
 gated. The total porosity was determined by means of the formula

$$P_T = \frac{\gamma_0 - \gamma_1}{\gamma_0} \cdot 100,$$

where P<sub>T</sub> is the total porosity and  $\gamma_0$  and  $\gamma_1$  are the densities of nonporous and  
 porous bronzographite respectively. The surface porosity was estimated from oil  
 absorption data according to the formula

$$M = \frac{G_2 - G_1}{v_n \cdot V} \cdot 100,$$

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ACC NR: AP6017102

where  $\Delta$  is the oil absorption,  $G_2$  and  $G_1$  are the weights of the specimen before and after oil treatment respectively,  $\rho_M$  is the density of the oil, and  $V$  is the volume of specimen. The experimental results are presented graphically (see Fig. 1). It

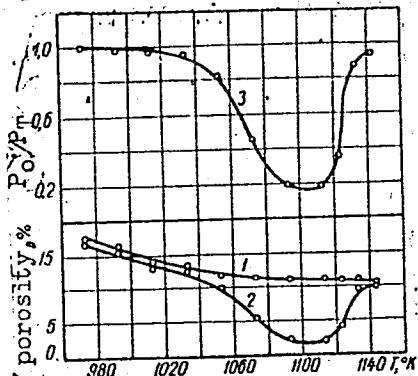


Fig. 1. Dependence of total (1) and surface (2) porosity, and the ratio of surface to total porosity ( $P_o/P_T$ ) of bronzographite specimen compressed from powdered Cu, alloy Cu--Sn, and C, on the sintering temperature. Sintering pressure 40 k newtons/cm<sup>2</sup>, initial total porosity 1%.

was found that the sintering temperature and pressure affect the total and surface porosity differently. The ratio of surface to total porosity when expressed as a function of the temperature exhibits a minimum, the position of which is shifted to lower temperatures with increase in the specific sintering pressure. Orig. art. has: 2 equations and 4 figures.

SUB CODE: 11/

SUBM DATE: none/ ORIG REF: 007

Card 2/2 *do*

ALISOV, B.P., prof.; SOROKINA, V.N.

Some dynamic characteristics of the climate of Moscow.  
Meteor. i gidrol. no.11:14-21 N '65. (MIRA 18:11)

1. Moskovskiy gosudarstvennyy universitet.

SOROKINA, V. V.

621-385 The Mechanism of the Operation of Kenotrons with Cold Cathodes. V. V. Sorokina. (Bull. Acad. Sci. U.R.S.S., ser. phys., 1944, Vol. 8, No. 6, pp. 343-345. In Russian.) A brief description is given of a kenotron developed in Russia and consisting essentially of a nickel cylinder (the anode) in a cylindrical glass envelope on which a layer of caesium oxide (the cathode) is deposited. A characteristic of the kenotron is plotted and discussed.

APPROVED FOR RELEASE: 08/23/2000

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Timofeyev, P. V., and Sorokina, V. V. On the electrostatic lenses field form. ~~C. R. (Doklady) Acad. Sci. URSS (N.S.) 56, 153-156 (1947).~~

The focusing action of an electrostatic field is discussed if the equipotential surfaces are second order surfaces of revolution. The best results are found in case of paraboloids. Though such fields cannot be realized physically it is possible to obtain fields whose equipotential surfaces have approximately parabolic shape. It is claimed that electron lenses built according to this principle gave better focusing results in all cases than the usual lenses used at present in electron optical instruments. R. K. Luneburg (New York, N. Y.).

Source: Mathematical Reviews, 1948, Vol 9, No. 3

*Small*  
*size*

SOROKINA, V. V.

PA 51790

USSR/Physics

Apr 1948

Microscopes, Electron  
Lenses, Electromagnetic

"The Form of a Field of Electrostatic Lenses," V. V. Sorokina, P. V. Timofeyev, All-Union Electrotech Inst, Moscow, 8 pp

"Zhur Tekh Fiz" Vol XVIII, No 4

Departs from laws of mechanics to determine the electrostatic focusing of electronic streams. Determines form of a field of electrostatic lenses. This permits obtaining electronic representation with minimum aberration. Shows methods to calculate and construct new 'hyperbolic' lenses. Submitted 30 Apr 1947.

64790

SOROKINA, V. V.

USSR/Optics, Electronic  
Lenses, Electron

Apr 47

"The Electrostatic Lenses Field Form," P. V. Timofeyev, V. V. Sorokina, 4 pp

"CR Acad Sci" Vol LVI, No 2

Discussion of modified and appropriate forms of the equations of electron-optics.  
Partial solutions and resulting graphs and diagrams. Recommendations for various lens  
shapes and electrostatic fields.

PA 11T76

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21592

S/109/60/005/010/015/031  
E032/E114

AUTHORS: Timofeyev, P.V., and Sorokina, V.V.

TITLE: Electron emission in electron-optical (image) converters for  $\gamma$ -rays

PERIODICAL: Radiotekhnika i elektronika, Vol.5, No.10, 1960,  
pp. 1687-1691

TEXT: This paper was read at the 9th All-Union Conference on Cathode Electrons in Moscow, October 1959.

A  $\gamma$ -ray image converter, designed for use in defectoscopy, is described. Fig.1 shows a schematic drawing of the image converter. The converter has two electrodes located in a glass envelope. The cathode, 1, is spherical in form and is attached to a metal rim which in turn is attached to the base of the envelope. The cathode is made of 0.1 mm thick aluminium foil and faces the anode cylinder, 2. The aluminium foil is coated with a layer of phosphor, 3, which is about 0.4 mm thick. A Sb-Cs photocathode, 4, is deposited onto the phosphor. The walls of the envelope are covered by a conducting layer 5, and a luminescent screen 6 which is used in the visual inspection of the image is located

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Electron emission in electron-...

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E032/E114

inside the anode cylinder, which is held in position by the rod 7. A thin film of aluminium is deposited on the luminescent screen on the cathode side. The cathode, which is in contact with the conducting layer 5, serves as the electrode of an electrostatic lens which focuses electrons leaving the surface of the cathode on irradiation by  $\gamma$ -rays. The anode cylinder is the second electrode of the lens. The dimensions and the disposition of the electrodes were chosen so as to obtain equipotential surfaces in the form of hyperboloids of revolution. It was shown by the present authors (Refs. 2, 3) that this is the optimum form of the field. Two types of such converters have been made; in one the cathode is 30 mm in diameter and the working voltage is 16-18 kV. The electron-optical reduction is equal to 6. The resolution is 5 lines per mm and the brightness of the image is 400-500 times greater than on ordinary X-ray screens. The second type has a working cathode diameter of 100 mm, electron-optical reduction of 9, and a working voltage of 22-25 kV. The resolution of this converter is 3 lines per mm, and it intensifies the image brightness by a factor of 1000 - 15 000. There are 6 figures and 3 references: 1 Soviet and 2 non-Soviet.

Card 2/3

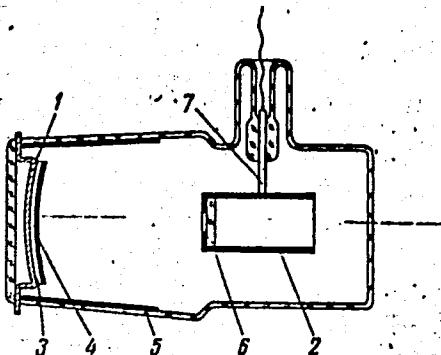
21592

Electron emission in electron- ....

S/109/60/005/010/015/031  
E032/E114

SUBMITTED: December 21, 1959

Fig.1



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